

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A fuel cell power generation refrigerating system comprising:
a vapor-compression refrigerating machine; and
a fuel cell, wherein

driving power of a compression-machine-driving motor of said vapor-compression refrigerating machine is provided by power generated by said fuel cell, and

power generated by said fuel cell is supplied to a commercial system side in response to that total required power of said vapor-compression refrigerating machine is below a power generation capacity of said fuel cell;

a first power conversion element provided between said fuel cell and said compression-machine-driving motor; and

a second power conversion element provided between said commercial system and said compression-machine-driving motor, wherein

said first power conversion element and said second power conversion element share the same inverter.

2. (Currently Amended) A fuel cell power generation refrigerating system comprising:
a vapor-compression refrigerating machine;
a power board supplying operating power to said vapor-compression refrigerating machine using a power supply of a commercial system as an input;
a fuel cell;

a first power conversion element performing predetermined power conversion using an output of the fuel cell as an input to supply operating power to a compression-machine-driving motor of said vapor-compression refrigerating machine; and

a power supply control element providing driving power of said compression-machine-driving motor of said vapor-compression refrigerating machine by power generated by said fuel cell as well as supplying power generated by said fuel cell to said commercial system side in

response to that total required power of said vapor-compression refrigerating machine is below a power generation capacity of said fuel cell; and

a second power conversion element provided between said commercial system and said compression-machine-driving motor, wherein

said first power conversion element between said fuel cell and said compression-machine-driving motor and said second power conversion element share the same inverter.

3. (Canceled)

4. (Withdrawn—Currently Amended) The fuel cell power generation refrigerating system according to claim 2-3, further comprising a plurality of compression machines for said vapor-compression refrigerating machine and a plurality of inverters, wherein

the number of operating compression machines is controlled according to required operating load of said vapor-compression refrigerating machine, and

generated power of a fuel cell is supplied to said commercial system side from an inverter in a not-operating compression machine system.

5. (Currently Amended) The fuel cell power generation refrigerating system according to claim 2-3, adopting a bidirectional AC/DC inverter as an AC/DC converter to be connected with said commercial system.

6. (Withdrawn—Currently Amended) The fuel cell power generation refrigerating system according to claim 2-3, further comprising a plurality of compression machines for said vapor-compression refrigerating machine, wherein

some of motors for driving some of said compression machines are connected directly to said commercial system side.

7. (Previously Presented) The fuel cell power generation refrigerating system according to claim 5, wherein

a capacity of a fuel cell is set higher than a capacity of an inverter supplying operating power to said compression-machine-driving motor of a vapor-compression refrigerating machine, and

generated power is supplied to said commercial system side via said bidirectional AC/DC inverter in response to that said fuel cell is operating at the maximum capacity.

8. (Previously Presented) The fuel cell power generation refrigerating system according to claim 1 or 2, wherein

the amount of power supply from said commercial system side to a system inside a building including a fuel cell power generation refrigerating system is detected, and

power output control of said fuel cell power generation refrigerating system is performed in response to the detected amount of power supply.

9. (Withdrawn) The fuel cell power generation refrigerating system according to claim 1 or 2, further comprising a battery element connected in parallel to said fuel cell.

10. (Withdrawn) The fuel cell power generation refrigerating system according to claim 1 or 2, wherein

the amount of power supply from said commercial system side to a system inside a building including said fuel cell power generation refrigerating system is detected,

it is detected that the detected amount of power supply has been reduced to a degree that may cause reverse power flow, and

in response to this detection, an operating capacity of said vapor-compression refrigerating machine is increased forcedly until said fuel cell follows a load.

11. (Withdrawn) The fuel cell power generation refrigerating system according to claim 1 or 2, wherein

a plurality of fuel cell power generation refrigerating systems are provided for one power customer.

12. (Withdrawn) The fuel cell power generation refrigerating system according to claim 11, further comprising a controller provided in common for said plurality of fuel cell power generation refrigerating systems, wherein

said controller provided in common at least controls operation of fuel cells of said plurality of fuel cell power generation refrigerating systems.

13. (Withdrawn) The fuel cell power generation refrigerating system according to claim 12, wherein

the amount of power supply from said commercial system side to a system inside a building including said fuel cell power generation refrigerating system is detected, and

the controller provided in common controls operation of said fuel cells in response to the detected amount of power supply.

14. (Withdrawn) The fuel cell power generation refrigerating system according to claim 1 or 2, further comprising:

a fee output element at least outputting an electricity fee and a fuel fee; and

a control element controlling operation of said fuel cell and performing distribution control of output power in response to the fees.

15. (Withdrawn) The fuel cell power generation refrigerating system according to claim 14, wherein

said fee output element allows unit cost data and fee calculation software for fee calculation to be rewritten at a remote place.

16. (Withdrawn) The fuel cell power generation refrigerating system according to claim 1 or 2, wherein

said vapor-compression refrigerating machine utilizes a direct expansion cycle.

17. (Canceled)

18. (Withdrawn—Currently Amended) The fuel cell power generation refrigerating system according to claim 1-17, further comprising a plurality of compression machines for said vapor-compression refrigerating machine and a plurality of inverters, wherein

the number of operating compression machines is controlled according to required operating load of said vapor-compression refrigerating machine, and

generated power of a fuel cell is supplied to said commercial system side from an inverter in a not-operating compression machine system.

19. (Currently Amended) The fuel cell power generation refrigerating system according to claim 1-17, adopting a bidirectional AC/DC inverter as an AC/DC converter to be connected with said commercial system.

20. (Withdrawn—Currently Amended) The fuel cell power generation refrigerating system according to claim 1-17, further comprising a plurality of compression machines for said vapor-compression refrigerating machine, wherein

some of motors for driving some of said compression machines are connected directly to said commercial system side.

21. (Previously Presented) The fuel cell power generation refrigerating system according to claim 19, wherein

a capacity of a fuel cell is set higher than a capacity of an inverter supplying operating power to said compression-machine-driving motor of a vapor-compression refrigerating machine, and

generated power is supplied to said commercial system side via said bidirectional AC/DC inverter in response to that said fuel cell is operating at the maximum capacity.